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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/840,947	04/21/97	LIU E	30454-21

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MMS1/0201

EXAMINER

LE, D

ART UNIT	PAPER NUMBER
2816	8

DATE MAILED: 02/01/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
08/840,947

Applicant(s)

LIU

Examiner

DINH LE

Group Art Unit  
2816



☒ Responsive to communication(s) filed on Dec 14, 1998

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-18 and 20-29 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-18 and 20-29 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

## **FINAL REJECTION**

### ***Response to Applicant's Amendment***

The proposed correction for the drawings are approved.

The rejections under 35 U.S.C. , a first and second paragraphs, are withdrawn in view of the amendments to the claims.

Claims 1-2, 4-7, 9-16, 20-22 and 24-29 remain rejected under 35 USC 102 (b) as being anticipated by Iwami (US Pat. 5,546,458).

With regard to claim 1, the Iwami reference discloses in Figures 1-2 a noise canceller circuit comprising a first circuit (38, 38a, 38b), a second circuit (40, 40a, 40b) and a substractor (36).

### ***New Ground of Rejection***

Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***New Ground of Rejection***

The claims as amendment in the applicant's amendment necessitated a new ground of rejection as below:

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The recitation "a circuit which reduces a signal by one half its amplitude" in claims 3, 8, 13 and 18 lacks antecedent basis in the specification

### ***Claim Objection***

Claim 11 is objected to in that "to to" at line 3 should be corrected as --to--. Correction is required.

### ***Claim Rejections - 35 U.S.C. § 112***

Claims 1-18 and 20-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the recitation "signal" and "function" at line 6 are confusing because it is unclear if this is an additional "signal" and "function" or further recitations "signal" and "function" at line 3. The same is true for claims 4 and 13

In claim 3, 8, 13 and 18, "its amplitude" lacks antecedent basis. Also, it is unclear how the signal can be reduced by one-half its amplitude.

The remaining claims are dependent from the above claims and therefore also considered indefinite.

### ***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 8, 17-18 and 23 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Iwami (US Pat. 5,546,458).

Iwami discloses in Figures 1-2 a noise canceller but does not disclose that the subtractor circuit comprising a halving circuit for reducing a signal by one-half of its magnitude as called for in claim 3. However, employing a subtractor comprising a halving circuit for further reducing an output signal is notoriously well known in the art (disclosed at line 22-25 in page 6 of the specification of the present invention). Thus, employing a subtractor having a halving circuit in the Iwami circuit is considered to be a design expedient for an engineer dependent upon a particular environment and the application in which the noise canceller of Iwami is to be used. A skilled artisan would be motivated to employ the subtractor having a halving circuit in the Iwami circuit for the purpose of further reducing the magnitude of the output signal. Also, employing a digital subtractor comprising an adder for subtracting two signals is notoriously well known in the art.

### ***Response to Applicant's Arguments***

The applicant's arguments that the Iwami circuit is different from the present invention because Iwami subtracts the input of one microphone from the input of other microphone, Iwami says nothing about noise components resulting from noise experienced by a circuit and the input noise signals from the Iwami circuit are not equal to each other have been carefully considered but are not persuasive. It is notoriously well known in the art that all amplifiers internally generate noises (S/N ratio). Since the means (38, 40) of Iwami are identical amplifiers, obviously these amplifiers inherently generate equal noises which would be added to the input signal (32a, 32b).

### ***Conclusion***


Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Dinh Le whose telephone number is (703) 305-3790. The examiner can normally be reached on Monday to Friday from 7:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (703) 308-4876. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

  
DINH LE  
Examiner  
Art Unit: 2816

January 26, 1999